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# **SCIENTIFIC INFORMATION REPORT CHINESE SCIENCE**

**(20)**

**Summary No. 4322**

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**Prepared by**

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SCIENTIFIC INFORMATION REPORTChinese Science (20)

This is a serialized report consisting of unevaluated information prepared as abstracts, summaries, and translations from recent publications of the Sino-Soviet Bloc countries. It is issued in seven series. Of these, four, Biology and Medicine, Electronics, and Engineering, Chemistry and Metallurgy, and Physics and Mathematics, are issued monthly. The fifth series, Chinese Science, is issued twice monthly; the sixth series, Organization and Administration of Soviet Science, is issued every 6 weeks; and the seventh series, Scientific and Technical Information on Outer Mongolia, is issued sporadically. Individual items are unclassified unless otherwise indicated.

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ERRATA

In Summary No 4230, Scientific Information Report, Chinese Science, (18), the first line, second paragraph, of the item titled "Migration of Two Inner Mongolian Birds Noted" should have included telecodes as follows: "Each year, the 'puffed-billed' swan (4001/0865) 1131/7709)...."

a

C-O-N-F-I-D-E-N-T-I-A-L

In the same issue, the bracketed note on page 14 should have read: "[A full translation of this item, which consists of a simple discussion of the new program from the point of view of linguistics and a comparison of the program with earlier programs, will appear in the JPRS report, Foreign Developments in Machine Translation and Information Processing...]

b

C-O-N-F-I-D-E-N-T-I-A-L

AGRICULTURAL SCIENCES

CHINESE ACADEMY OF AGRICULTURAL MECHANIZATION ESTABLISHED -- Peiping, Nung-yeh Chi-hsieh Chi-shu, No 5, 13 Aug 62 p 1

The Research Academy of Science and Technology for Agricultural Mechanization, originally under the Ministry of Agricultural Machinery, and the Institute of Agricultural Mechanization, originally under the Ministry of Agricultural Machinery, and the Institute of Agricultural Mechanization of the Chinese Academy of Agricultural Sciences merged recently to form the Chinese Academy of Agricultural Mechanization (Chung-kuo Nung-yeh Chi-hsieh-hua K'o-hsueh Yen-chiu Yuan; 0022/0948/6593/2814/4408/2750/0553/4430/1351/4282/4496/7108).

The Chinese Academy of Agricultural Mechanization is a nationwide research center for agricultural machinery. It will be responsible for agricultural machinery and equipment, the mechanization of crops, and research tasks in such areas as new techniques, materials technology, repair application, experimental verification, and technical information; and will be responsible for research on machine theory related to agriculture as well as the direction and the program for China's agricultural mechanization and other over-all problems.

On 6 July, the Chinese Academy of Agricultural Mechanization convened a founders day meeting. Responsible cadres of national scientific committees, the Ministry of Agriculture, and the Ministry of Agricultural Machinery attended this meeting and set the goals for future work.

The establishment of the Chinese Academy of Agricultural Mechanization is a central strengthening of leadership in research on agricultural machinery and an important measure to hasten the special development of China's agricultural mechanization.

UNIVERSITY AND SECONDARY VOCATIONAL SCHOOL GRADUATES BECOME "IMPORTANT TECHNICAL FORCE" -- Peiping, Kuang-ming Jih-pao, 7 Jan 63, p 2

Over the past years, more than 900 higher-level school and secondary vocational school graduates have come to Mu-tan-chiang, Heilungkiang Province, to participate in agricultural production and construction. They have now become an important technical force in reclaimed land areas. These graduates are specialists in agriculture, agricultural mechanization, agricultural economy, animal husbandry, veterinary medicine, hydraulic engineering, and meteorology. Beginning in 1956, they have come from more than ten provinces and municipalities

to Mu-tan-chiang. According to the needs of production and the specialities of the graduates, they have been allocated to various experimental stations, seed improvement stations, weather stations, cultivation teams, and production control and machine repair departments to assume responsibilities for technical leadership and experimental research.

Mu-tan-chiang, a large mechanized reclaimed area, was established by demobilized officers and men of the People's Liberation Army. Because basically there was no technical reference data on local agricultural production, mechanization of large areas of reclaimed land presented many important and difficult technical tasks. Since the arrival of the graduates, they have, along with the masses of employees, in an organized and systematic manner carried out a series of investigations of natural conditions and experimental research projects. Having made strenuous efforts over the past few years, they are now basically in control of natural conditions in the reclaimed area. They have formulated technical regulations for regional transportation, cultivation, fertilization, improved seed reproduction, and drainage. They are clear about the cultivation limitation of many important varieties of grain crops. At the same time they have accumulated large quantities of weather and soil data. Working in seed improvement stations on various farms, they have, over the past few years, cultivated several hundred varieties of domestic and foreign seed. After regional testing, they selected, propagated, and distributed more than 100 varieties. Preliminary research by mechanization specialists has solved the problem of mechanized hillling. In 1962, more than 70 percent of the corn and soybean crops were hill-grown and the output was higher than that of level-grown crops. Twenty-five agricultural graduates working on 87 farms, under the leadership and support of the farms, formulated and popularized a complete set of technical procedures, which met with market success. Weed prevention is an important problem in reclaimed areas. In 1961, seven university and middle school graduates working at a farm experimental station began to study the living habits and reproductive patterns of weeds and found a mechanized method to eliminate them. The result of this research was popularized, and by 1962 a million mou of cultivated land were weed-free.

At the present time more than 100 specialists participate in Communist Party and Youth League activities. More than 500 have assumed important functions in various technical departments and some have been promoted to assistant directors of farms or subfarms. Many have already settled down permanently.

SHANGHAI ACTIVE IN PUBLISHING AGRICULTURAL SCIENCE WORKS -- Peiping,  
Kuang-ming Jih-Pao, 21 Dec 62, p 2

During the past 2 years, various presses in Shanghai have published a large number of works on scientific and technological subjects related to agriculture, including textbooks and reference materials.

Chung-kuo Fei-liao Kai-lun [A Summary of Chinese Fertilizers] presents a systematic summary of the basic theory involved in the study of fertilizers, as well as the physical and chemical properties of the important fertilizers and the techniques of their application. Other works include 1960 Nien K'o-hsueh Chi-shu Lun-wen Hsuan-chi (Nung-yeh, Sheng-wu-hsueh) [Collected Scientific and Technological Papers of 1960 (Agriculture, Biology)]; a translation from the English entitled Nung-hsu Sheng-li-hsueh Chin-chan [Progress in the Physiology of Farm Animals], Nung-yeh K'ung-ch'ung-hsueh [Agricultural Entomology], Sung-chiang Shui-tao ["Sung-chiang" Rice] and Chung-kuo Kuo-shu K'o-hsueh Yen-chiu Wen-che I [Chinese Pomology Abstracts I].

The work Nung-ts'un Wei-sheng Hsueh [Public Health in Farm Villages] reports the conclusions drawn by the author after several years work in farm villages near Shanghai. The book Shu-ts'ai Ts'ai-p'ai Chi-shu Hsiao Tsung-shu [A Guide to Vegetable Growing] was of general interest.

PROMINENT VETERINARIANS DISCUSS DRAFT ANIMAL DISEASES -- Peiping,  
Kuang-ming Jih-pao, 21 Dec 62, p 1

Twenty-one prominent Hupeh veterinarians recently assembled in Wuhan and in more than 20 days of discussion gave their attention to the control of draft animal diseases. They had done detailed research on draft animal diseases and the initial processing of more than 70 types, and basically understood the causes of these diseases and the laws governing their development. They explained clinical symptoms and diagnostic essentials and presented more than 200 effective treatments employing the use of injections and drugs, simple nursing practices, and preventive measures.

They had studied and systematized the growing periods, characteristics, and efficacy of more than 50 herbs commonly used in Hupeh. They had systematized horse, hog, and sheep diseases as well as effective examinations and remedies. At the meeting, they exchanged control experience and techniques, which they had accumulated over a long period of time.

KIRIN SOCIETY OF SCIENCE AND TECHNOLOGY ORGANIZES INSTRUCTION FOR BASIC LEVEL UNITS -- Peiping, Kuang-ming Jih-pao, 7 Jan 63, p 2

In view of the key problems in production and the urgent needs of basic level technical cadres, the Kirin Society of Science and Technology has organized scientists and technicians to penetrate basic level units and give lectures on special problems to assist technicians to raise their operational level.

In November 1962, this society invited teachers of Kirin Agricultural College to lecture agricultural technicians and old peasants in Pai-ch'eng and Ssu-t'ing on the subject of improving fertilizer collection to increase soil fertility. The college also invited scientific workers of the Kirin Institute of Veterinary Medicine to go on lecture tours in Pai-ch'eng, Ta-an, T'ung-yu, and other places, centering their talks on stock physiology, bio chemistry, and control techniques for various kinds of parasitic diseases. Three university professors spoke on the problem of ox degeneration in Yen-tien area and gave special lectures on the selective breeding of male cattle and the avoidance of close inbreeding of cattle.

INSECTS USED TO COMBAT TEA PLANT PESTS -- Peiping, Kuang-ming Jih-pao, 16 Jan 63, p 2

The Kweichow Provincial Mei-t'an Research Institute of Tea (Kuei-chou Sheng Mei-t'an Ch'a-ye Ch'o-hsueh Yen-chiu So; 6311/1558/4164/3270/3389/5420/5509/4430/1331/4282/4496/2076) has been experimenting with the use of insects that are parasitic on the larvae of insect pests harmful to tea plants. Among the natural enemies of tea pests studied are various types of lady bugs (*Ptychanatis axiritis*), dragonflies, (*Chrysotoximina*) honey bees and other beneficial insects. In addition, this research institute has studied the use of agrochemicals and hybridization in the combating of insect pests.

BIOLOGICAL AND MEDICAL SCIENCES

KIRIN MEDICAL UNIVERSITY STUDENTS PRACTICE IN VILLAGES -- Peiping, Kuang-ming Jih-pao, 11 Jan 63, p 1

Kirin Medical University this semester has sent students to the villages to practice. This is very beneficial in developing the students medical capability and in nurturing his thinking about serving agricultural production.

Since August 1962, this school has sent three groups of students from the 1958 class to Hospitals and commune health centers to practice in Chiu-t'ai, Te-hui, and other hsiens. Before going to the villages to practice, the school and practice units drew up plans and made preparations for the selection of equipment and vaccines. During the course of practice, students came to realize that there is a lack of medical equipment in the villages, and that therapeutic measures must be integrated with rural practices, which means that the student must be able to do good independent work. Thus, the student conscientiously studies the practice requested by the leading instructor and the basic books on physical examination and medical case histories. From this he comprehends the process of how to make an analysis and judgement. Especially, he relies on the practice doctors ability to handle cases by using "one stethoscope and just two hands" and on the abundant experience the practice teacher has accumulated over a long period of practicing medicine in the village.

The students say they must train themselves to adapt themselves to the rural environment and that only after graduation will they be equal to the tasks of rural work. They have gradually come to realize that the importance of the health movement lies in removing injury and disease in rural development. The school gives attention to training the practice students in political ideology. The students are well aware of the fact that the villages urgently need medical students. Many of them have indicated that they are willing to work in the villages after graduation. But some, in view of the fact that rural technical equipment does not compare with that of the city, fear that it will adversely affect their advancement. Regarding this kind of thinking, leading practice teachers and party and youth league organizations, in addition to pointing out the importance of strengthening rural health work, have invited students with many years of experience in the villages and vast medical accomplishments to speak to these students and to educate them. After completion of practice in the villages, many students have requested the school to send them to do rural work after graduation.

CHINA PRODUCES ORAL POLIO VACCINE -- Peiping, Jen-min Jih-pao,  
17 Jan 63, p 2

With the development of a new vaccine, China now has the means to prevent infantile paralysis. Since 1960, the live, weakened polio-myelitis vaccine developed jointly by the Chinese Academy of Medical Sciences and the Peiping and Chengtu Institutes of Biological Products has been provided free of charge to more than 20 million children in Peiping, Shanghai, Tientsin, Wuhan, Mukden, Tsingtao, and other cities. The vaccine has proved to be very effective, and the number of cases of infantile paralysis in these cities has decreased year by year.\*

The polio vaccine now produced in China is a live oral vaccine. It is being produced by the newly established Institute of Medical Biology of the Chinese Academy of Medical Sciences. The annual production is sufficient for the use of all children under school age in the large and middle-sized cities of China. Measures are also being taken to change the form of this vaccine and make it more suitable for storage and use in rural villages.

RESEARCH ON ARTIFICIAL CONTROL IN RABBIT BREEDING -- Peiping, Kuangming Jih-pao, 17 Jan 63, p 2

For the past 4 or 5 years, Prof Wu Yang-tseng (0702/7402/2582) and several young instructors of the Biology Department, Northwest University in Siam, have been carrying out research, with some success, on artificially controlling the sex of the progeny of domestic rabbits. Not long ago, they presented a paper titled "The Differing Effects of Reproductive Glands on the Two Sides of the Body on the Sex of the Progeny of Domestic Rabbits" to a report conference at their university..

In this paper, Wu explained his viewpoint with regard to research and observations of the form and physiology of the left and right reproductive glands of the domestic rabbit, and asserted that they are physiologically asymmetrical. By utilizing this difference, it is possible to regulate the sex of the progeny. In the past several years; he has carried out many experiments involving physiological operations and the mating of male rabbits which produced sperm of only one sexual characteristic and female rabbits which produced eggs of only one sexual characteristic, to regulate the sex of the progeny. By using this method of artificial regulation, he obtained a ratio of females in the progeny of 82.45 per cent. In this experiment, the results of regulation were a little better when rabbits of the same type were mated.

Wu Yang-tseng has asserted that all mammals, including domestic rabbits, have a mechanism for self-regulation of the sex of progeny, which assures that the ratio of male to female in later generations will be fairly close. This regulation is based on the fact that the left will be fairly close. This regulation is based on the fact that the left and right reproductive glands are asymmetrical. He states that his view that the physiological characteristics of the reproductive cells determine the sex of later generations is opposed to that of the Morgan school of genetics. The Morgan school believes that sex is determined by the sex chromosome, and is determined by the ratio between sex-chromosomes and ordinary chromosomes.

MARINE PRODUCTS RESEARCH CONDUCTED -- Peiping, Kuang-ming Jih-pao, 8 Jan 63, p 2

Workers of the Research institute of Marine Products, Ministry of Aquatic Products, have been conducting research in the Sheng-shan fishing grounds off the coast of Chekiang province aboard the new research ship "Huang-hai No 1" (7806/3189; "Yellow Sea") All the latest special apparatus necessary to study the fish in this area are aboard this experimental ship.

COMPREHENSIVE SURVEY COMPLETED IN KWANGSI -- Peiping, Kuang-ming Jih-pao, 16 Jan 63, p 1

A team of experts in the fields of botany, forestry, pedology, geography, and microbiology have completed a comprehensive survey of the Hua-p'ing forest region of Kwangsi Chuang Autonomous Region. The comprehensive survey team was formed by the Chinese Academy of Sciences after a request from the Kwangsi Chuang Autonomous Region Scientific and Technological Committee. The comprehensive survey team, after 3 months of work in the Hua-p'ing forest, held a symposium to discuss its results; the topics included the zoological resources, vegetation, flora, geology, geomorphology, climate, soils, forest, comprehensive physical geography, water power, communications, and prospects for this virgin forest area. The results are summarized in a 200,000-word report.

The Hua-p'ing forest is in northeastern Kwangsi; it covers an area of over 130 square kilometers.

#### TECHNICAL SCIENCES

POWDER METALLURGY AND ITS APPLICATIONS -- Peiping, Kuang-ming Jih-pao, 8 Jan 63, p 2

[The following is a summary of an article by Lai Ho-i (6351/0735/1837), of the Powder Metallurgy Teaching and Research Section, Peiping Iron and Steel Industries College.]

Powder metallurgy is a new metallurgical technique and processing method which forms products and materials through pressure molding and heat fusion, without melting or casting. It is composed of the following three processes: (1) Making and preparing the powder; The powder raw material can be either a pure metal, an alloy, a nonmetallic material, or a compound of metallic and nonmetallic materials as well as other compounds; (2) the prepared powder mixture is formed into a specific shape and size by pressure molding or other means; (3) the formed material is then heat fused at a temperature below the melting

point of its basic constituents and in the presence of a particular atmosphere, making a product with the required physical and mechanical properties and other special characteristics.

Powder metallurgy techniques have the following special advantages:

First, it can be used to make products and materials with special characteristics which would be difficult or impossible to make in any other way. For instance, it can be used to make alloys of metals which will not melt together or of metallic and nonmetallic materials.

Second, powder metallurgy can be used to make uniform alloys of high purity, high melting point metals and precise constituents. For instance, the melting point of tungsten is 3,400 contigrade, and it is very difficult to find a furnace lining which will neither melt nor react with the molten metal at this temperature, but tungsten of 99.9 percent purity can be produced by powder metallurgy methods.

Third, since the objects can be formed to their final shape and dimensions by pressure, there is little or no necessity for machining. This reduces metal losses, and improves labor productivity. Losses in powder metallurgy manufacture range from one to 5 percent, and in general production methods, metal losses can reach 80 percent.

Fourth, powder metallurgy is an important means of saving large quantities of nonferrous metals and high quality steel materials.

Fifth, resources can be fully utilized. Many poor ores of non-ferrous metals cannot be refined economically by smelting. Through the methods of powder metallurgy, it is possible to make nonferrous metal materials at low cost.

The area in which powder metallurgy is most often used is in the manufacture of machine parts. The reasons for its rapid development in this field are that it saves metal, reduces operations, and lowers costs. For instance, under ordinary processing methods, manufacture of a gear for an automobile oil pump would require 21 operations, but with powder metallurgy methods, it requires only eight operations, and consumes only 30 percent as much material. Working time and cost are both reduced 75 percent. Furthermore, a part made by methods of powder metallurgy satisfies all requirements of use, and is almost as strong as a casting. The strength of some heat fused steel has reached as high as 151 kilograms per square millimeter.

In some high speed, heavy load applications, friction materials operate under very severe conditions. Some high speed machinery has an initial operating speed of 50 to 70 meters per second, and pressures reach 70 kilograms per square centimeter. During operation, some large

friction surfaces reach temperatures of 1,000 to 1,100 degrees centigrade. Neither asbestos nor metallic friction materials can satisfy these requirements. Through powder metallurgy methods, materials can be made<sup>®</sup> to contain both metallic and nonmetallic elements, combining the high heat conductivity of metals and the high coefficient of friction of the nonmetals. Powder metallurgy can also be used to make materials with a porosity of 30 to 60 percent, to be used mainly for filtering various liquid fuels, lubricating oils, and chemicals.

Powder metallurgy is especially well suited to the manufacture of magnetic materials, such as permanent magnets of alnico alloy. In the manufacture of precision parts of several grams to several hundred milligrams in weight, casting and machine processing results in a product rate of only one to 2 percent, whereas the powder metallurgy method guarantees a product rate of 95 percent.

Powder metallurgy can also be used to make hard alloys. Cutting tools made of these alloys can increase the speed of lathe metal processing from 15-20 meters per minute to 100-300 meters per minute. Furthermore, hard alloy rollers last 50 to 100 times as long as steel rollers. There are further applications in defense industries, such as armor piercing shells and antitank grenades. Heat fused aluminum (S.A.P.) has received a great deal of attention from the aircraft industry. At room temperature, it is about as strong as high strength aluminum alloy, and at high temperatures it is even stronger. It even remains relatively strong at temperatures of 500 degrees centigrade, whereas high-strength aluminum alloy gradually loses its strength above 250 degrees centigrade.

Powder metallurgy methods are now being used to make high temperature metallic ceramic material and sweating materials. High-temperature metallic ceramics are composed of hard-to-melt metallic carbides, borides, silicides, nitrides, as well as high melting point oxides, bound together by metals or alloys. The characteristics of these materials are a high melting point, generally 2,000 degrees centigrade or more, hardness, resistance to abrasion, and relatively good high-temperature strength. They have the advantages of both the ceramics and the metals. They are used for turbine blades, high-temperature bearings, refractory crucibles, rocket nozzles, high-temperature semiconductors, etc. Sweating material is a highly porous refractory material. The pores are filled with a metallic or nonmetallic substance which absorbs a great deal of heat when melted, and which is easily volatilized. Under high-temperature operation, this material absorbs a great deal of heat. Sweating materials have been successfully used in both aircraft and guided missiles.

Powder metallurgy has a special place in atomic energy industries. The application of powder metallurgy methods in making the fuel elements for an atomic reactor pile, control and shielding materials, and some

construction materials, in addition to the above-mentioned advantages, has the further advantage that the materials are not easily damaged by radiation. Fuel elements for a reactor pile require a high degree of high-temperature strength, resistance to corrosion, should not react with other materials, good heat dispersion, stable dimensions, etc. With powder metallurgy methods, it is possible to make fissionable materials with the uniform distribution of chemical compounds, and which will satisfy all of the above requirements.

Finally, it must be pointed out that because of the pressure in the initial forming process, there is a limit to the size of objects which can be made by the powder metallurgy method. However, advances in technology will eventually solve this difficulty. There are already presses which can deliver 3,000 tons of pressure, enough to produce parts with surface areas of 600 to 1,500 square centimeters.

RESEARCH IN ELECTROMAGNETIC MEASUREMENTS - Peiping, Kuang-ming Jih-pao  
15 Jan 63, p 2

Electromagnetic measurement is essential to the modernization of production. The application of electric power in production and the techniques of zero voltage measurement depend, for their control and utilization, on accurate data obtained by electromagnetic measuring instruments. Chinese research in this field and the design and manufacture of instruments did not begin until after the liberation. In the short period of time since then, some research results have been obtained, and these results were reviewed during the presentation and discussion of 35 papers at the first annual conference on electromagnetism called by the Chinese Society by the Chinese Society of Measuring Techniques and Instrument Making in Canton, early in December 1962. The contents of the papers presented included methods of measuring data parameters on magnetic properties, amounts of magnetism, alternating current, and direct current; as well as instrument making and other fields.

Very pure grades of manganese copper resistance material is one of the key materials in electromagnetic measuring instruments. The production and testing of this material is one of the most serious problems of measurement technicians and instrument makers in China. Ch'en Hsi (7115/3556), an engineer at the Shanghai Research Institute of Electronic Equipment (Shang-hai Pien-ch'i K'o-hsueh Yen-chiu So; 006/3189/7193/0892/4430/1331/4282/4496/2076), [First Ministry of Machine Building], studied large quantities of documents and material, and using a type of temperature coefficient chart as his tool, analyzed and compared various kinds of foreign technical standards, and arrived at the major questions which must be considered when establishing a technical standard. In the course of his analysis, he wrote a paper on "Consideration of Heat Coefficient Technical Standards for Pure Grades of Manganese Copper Electrical Resistance Materials." This paper was submitted as an initial draft for national technical standards.

Shen Shu-chi (3088/6615/4764), an engineer at the Shanghai Chen-hua Electrical Instrument Plant (Chen-hua Tien-piao Ch'ang; 7201/5478/7193/5903/1681) has many years of experience in production of electrical instruments for use in tropical climates. In his paper, entitled "The Construction of Tropical Model Electrical Instruments", he discusses the designing and construction techniques of tropical model electrical instruments might be protected against water, mildew, and salt mist. Chou Chih-yao (0719/1807/1031), a young instructor at Peking University, carried out experiments employing nuclear magnetic resonance signals in stabilizing magnetic fields, and has initially achieved a relatively high degree of stability.

RESEARCH ON ELECTRICAL EQUIPMENT FOR USE IN HOT, HUMID AREAS -- Peiping, Kuang-ming Jih-pao, 16 Jan 63, p 1

The Canton Research Institute of Electrical Equipment (Kuang-chou Tien-ch'i K'o-hsueh Yen-chiu So; 1684/1558/7193/0892/4430/1331/4282/4496/2076) has spent over 3 years testing the operation of electrical equipment in the hot and humid areas of China, such as in the cities of Canton, Chan-chiang, and Hai-k'ou. This institute has studied the problems arising from the operation of electrical equipment in this sort of environment and has proposed the use of certain useful materials and techniques for electric engines, electrical equipment, and electrical engineering apparatus. Studies have been made on the suitability of certain insulating materials, metal-plating, lacquer materials, and anticorrosion agents. The research institute has published a collection of their work in this field.

NATIONAL RADIO ENGINEERING EXHIBITION HELD IN PEIPING -- Peiping, Kuang-ming Jih-pao, 9 Jan 63, p 2

The National Radio Engineering Exhibition, which opened on 9 December, has already drawn more than 30,000 viewers. Because of this response, it will be extended another three weeks -- that is, to the end of January.

Some 540 models are on display at the Peiping Gymnasium and Natatorium. Ninety-seven of these are outstanding. All demonstrate the creativity of children. Some are pocket-sized crystal set receivers, which the children housed in various kinds of toys. Also they assembled a large combination radio and record player as well as a rather complex semiconductor receiver. Of all the items made by children, more than 8 received awards in the 1962 national radio engineering championship competition, and two received special awards.

An automatic radio made by three Peiping 16-year-old students is one of the items that pleases viewers very much. This radio has a built-in alarm clock which, when the alarm goes off, starts the needle across the dial, pausing for five or six seconds at each station. Any station can be locked in by pushing a button. The students worked two years on this project. Models in operation attract large groups. Some models are accompanied by schematics. A money counting machine made by five employees of the Peiping branch of the People's Bank can accurately count 100 bills in 7 seconds. This machine received a special award. Two employees of the Shanghai Broadcasting Equipment and Material Factory made a smoke alarm, which when activated by smoke sets off an alarm. It can be used in factories and warehouses to prevent fires.

MEETINGS ON LIGHTNING PROTECTION IN HILL AREAS -- Peiping, Kuang-ming Jih-pao, 7 Jan 63, p 1

Keeping pace with the rapid development of the country's electric industry, high-tension power lines in hill areas are increasing daily. Any prevention or reduction in line damage due to storms is an important research topic to high-tension technicians. In the past few years, various concerned units have been carrying out research work with quite a bit of success. To transmit the results of this research, to discuss current technical problems, and to promote a continued increase in lightning protection techniques, the Electrical Engineering Society of China the Liaoning Electric Power Society had, before the end of the year, jointly conducted in Mikden "Academic Meetings on Protection in Hill Areas."

Sixty-five representatives from research units, higher level schools and production departments have, in addition to reading reports, discussed several problems including the following: (1) question of arrester angle for line protection and probability rate of lightning striking lines; (2) question of selection of computing methods and of computing parameters to protect lines from lightning; (3) question of grounding resistance; (4) question of single or double arresters; and (5) lightning selectivity in striking. During these discussions, many views were amended and corrected.

These meetings constitute a review of technology relating to protection from lightning. It could be seen that some units had worked hard and done detailed research for a long time and had accumulated large quantities of basic data on thunder and lightning. They will play an important role in future operation and design of transmission lines. The comrades submitted revised views of parameter and computation procedures. In the area of experiment and theory they carried out individual research work.

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At these meetings, it was proposed that the analytical work on observations and operational experience in thunder and lightning activity be strengthened, that research on the theory of protection and experimental procedures be strengthened, and that there be more concrete suggestions for economic and financial analytical work.

NEW PUBLICATION ON HOSPITAL CONSTRUCTION -- Peiping, Kuang-ming Jih-pao,  
21 December 1962, p 1.

The Laboratory of Public Architecture jointly operated by The Research Academy of Architectural Sciences of the Ministry of Building and the Nanking Engineering College has made a summation of experience in constructing comprehensive hospitals and has completed compiling a book entitled Tsung-ho I-yuan Chien-shu She-chi [Comprehensive Hospital Construction Design].

This book, according to the design requirements of the country's comprehensive hospitals, systematically explains principles of design from the point of view of basic selection and full-scale layout of a hospital as well as from the viewpoint of the internal arrangement and needs of the out-patient department, the in-patient department, the operating department, and other departments having to do with supplementary medical treatment and service facilities. The book, complying with the various directives and policies of socialist construction and the construction experience of modern comprehensive hospitals in large, medium, and small municipalities, presents comparatively reasonable design principles and design programs suitable to the locality. Research personnel who participated in compiling this book, under the personal direction of Nanking Engineering College Assistant Director Yang T'ing-tao (2799/1694/1405) and Prof T'ung Chun (4547/7165) went to over 100 hospitals in Peiping, Shanghai, Wuhan, Canton, Nanking, Chang-sha and other large and medium-sized cities as well as various places in Kiangsu to conduct investigations and carry out research. They sought the opinion of medical and health departments and design units and collected abundant reference material. With the help of the departments under the Ministry of Public Health, they made several revisions and finally completed the task of compiling the book.

WUHAN ARCHITECTURAL CONTEST PRODUCES "EXCELLENT" PLANS -- Peiping, Kuang-ming Jih-pao, 12 January 1963, p 1.

Recently, thirteen design units participated in a contest to design municipal dwellings for Wuhan city. The contest was sponsored by the Hupeh and Wuhan civil engineering societies, the objective being to discuss and advance a new program for municipal dwelling design and construction in view of Wuhan's hot summers and cold winters.

The society sponsored a small exhibit displaying 78 design plans, and organized workers, teachers, concerned units, and housewives to study and criticize the plans. At the same time, it organized five groups of specialists including space economy and dwelling construction specialists to make evaluations. The result was that 17 design plans received awards and 29 were rated excellent. All plans in these two categories incorporated the special features of Wuhan dwellings: position, ventilation, depth from front to rear, and protection from cold and heat.

The plan designed by Engineer Instructor Ch'u Tzu (0575/5261), director of the South China Engineering and Design College, was one of three which received a B class award. The designer faced important rooms south. Other rooms such as toilet, kitchen, and health room, he faced in other directions. Moreover, he incorporated the special features of the old style: windows and doors of all rooms are opposite each other, full-length doors and windows or folding windows were adopted to allow good ventilation in summer and protection from cold in winter.

A plan designed by Engineering Instructor Ts'ai Te-ya (5591/1795/1090), director of Wuhan Municipal Planning and Design College, and others, also received a class B award. This plan possessed all the features of the above plan and in addition had an open air shaft, which allowed good ventilation in the rooms and which reduced light rays and kept the room cool.

This contest attracted the attention of all concerned units in Wuhan. The South China Engineering and Design College and the Wuhan Municipal Planning and Design College extracted the superior features of these plans, and themselves designed two experimental plans, which have been received by Wuhan City Housing Control Department and the Design and Specifications Station.

#### EARTH SCIENCES

BIOSTRATIGRAPHIC STUDY OF EASTERN T'IEH-SHAN -- Peiping, Scientia Sinica, Vol 11, No 12, December 1962, pp 1707-1724.

[The following is a resume of the Russian-language article, "Stratigraphy of the Lower and Middle Carboniferous Strata on the Northern Slope of Borokhoro Range (Sinkiang, China) As Compared With Other Regions," written by Yang Shih-p'u (2799/1709/334 3302) of the Peiping Geological Institute. The article was received for publication on 4 May 1962.]

China has not published a single work on Carboniferous brachiopods within the past 25-30 years, while no study has ever been made of brachiopods in the T'ien-shan area. The author of this article therefore proposes such a study in his stratigraphic breakdown of Lower and Middle Carboniferous deposits in this area. He deems this study has great scientific as well as practical importance because of the strategic relationship of this area to Central Asia, Kazakhstan, the Mongolian People's Republic, Tibet, and the eastern part of the Chinese People's Republic.

The author's personal collections, made during special field trips in 1957, serve as materials for the writing of this paper, as do the observations and collections by a number of Soviet geologists, including Prof B. S. Sokolov. The brachiopods in this study were classified and described by the author. Other organic remains were classified by Soviet paleontologists, as follows: corals by T. A. Dobrolyubov and N. V. Kabakovich; bryozoa by I. P. Morozov; and ammonites by V. N. Shimanskiy.

The stratigraphic chart for the Carboniferous Period as used in this work corresponds to the USSR stratigraphic chart, which includes the Namyur stratum in the Lower Carboniferous. Fauna of the Lower Carboniferous deposits are divided as follows: Tournaisian, Visean, and Namyur strata. The two lower strata are subdivided into substrata. The Bashkir and the Moscow strata form the Middle Carboniferous deposits.

Table 1 is a stratigraphic comparison of the area with other regions in China: eastern Yunnan, southern Kweichow, the environs of Nanking, and northern Tsinghai.

Tables 2 and 4 show comparisons with the Talass Alatau Range (western spur of the northern T'ien-shan Range), northern Kirgiziya, Central Kazakhstan, and northern Djungari.

Table 3 gives the stratigraphic analysis of brachiopods. Here the author uses biostratigraphic terminology proposed by Prof D. L. Stepanov who subdivides the fauna into five groups. The author introduces a sixth -- local or new forms.

The work classifies 67 species and three subspecies of brachiopods. Of these, one is a new genus, 15 are new species, and three are new subspecies. Forty-one species are described for the first time for Chinese territory. Eleven species were previously known in China. (Table 4).

#### CHEMISTRY AND CHEMICAL TECHNOLOGY

ANALYTICAL CHEMISTRY CONFERENCE HELD IN NANKING -- Peiping, Kuang-ming Jih-pao, 13 January 1963, p 2.

The recent report conference held by Nanking University on analytical chemistry was attended by representatives from 16 higher schools and several research institutes: Peiping University, Nanking University, Fu-tan University, Wu-han University, Peiping Normal University, East China Chemical Engineering College, as well as the Institute of Chemistry and the Institute of Applied Chemistry, both of the Chinese Academy of Sciences. Of the 68 scientific papers and 9 critical papers presented to the conference, 33 scientific papers and 4 critical papers were discussed. About 40 percent of these papers were completed with the

participation or guidance of the professors and assistant professors at the various schools; the quality of these papers was high, their purpose clear, and their scientific basis sound. The remaining 60 percent of the papers were prepared independently by young instructors, and these also showed a certain amount of achievement. Some papers were submitted by instructors at newly established schools.

Both modern and classical methods of analysis were in evidence at the conference. Among the work using modern methods were papers on the use of catalytic colorimetric (chemical-dynamic) methods in the determination of iodine, copper, vanadium, and other elements; reports on the use of oscillopolarography in the study of ion-exchange discharge fluids and on "The Ion-Exchange Ring-Fusion Method;" and reports on the use of AC polarography, square wave polarography, and oscillopolarography. Papers were also presented on other methods of instrument analysis: coulometric analysis, spectrophotometry, flame photometry, and X-ray fluorescentspectrography.

The chemical analysis of isotopes was a key topic of discussion. Classical analysis was employed in the work reported in such papers as "The Complexometric Titration of Zirconium (Hafnium) in Zircon," "Studies of the Composition of Tantalum Selenite Precipitates," and other work on the use of alpha-monohydric benzylphosphinic acid and m-nitro-beta-phenyl-acrylic acid in the preparation of zirconium precipitating agents.

A great majority of the papers presented at the conference were closely related to problems of production. For example, papers were presented on the colorimetric and fluorescent methods of determining nitrates and other elements; chromatographic and ion-exchange separation methods in determining selenium, tellurium, and other elements; and direct polarographic determination of aluminum. Although the majority of the papers presented treat a single method of analysis, some deal with the analysis of certain objects by a number of different methods, as in the paper "An Examination of the Methods of Analysis of the Light Rare-Earth Elements." This paper discusses the use of paper chromatography, photometry, titration polarography, spectroscopy, and other methods, in the problem of separation and determination of the rare earth elements.

Other papers emphasized theoretical aspects; the papers "Iron-Peroxide Gas Catalytic Waves" and "The Catalytic Waves of Arsenic" not only suggested new methods of determination but also examined the mechanism of the production of catalytic waves.

The papers on square wave polarography dealt with the design of square wave polarographic apparatus, the theory of polarographic current, and the application of square wave polarography to problems of systematic research. The paper, "The Square Wave Polarograph," describing the author's construction of this instrument using domestically produced materials, was widely acclaimed.

The critical papers dealt with such subjects as the development of various titration indicators (such as in the paper "Complex Titration of Potassium"), suggestions on dealing with the problems encountered in fairly large-scale analyses (such as the analysis of sea water), and discussing various modern developments in analytical chemistry.

The conferees also discussed basic chemistry courses, the relative merits of classical analysis and instrument analysis, increased inter-collegiate cooperation, and the resolution of difficulties arising in report conferences.

[The following material is taken from a comment appended to the above article, and appearing in the same source; it is by Prof Yen Jen-yin (0917/0088/5593) of Peiping University.]

Many fine reports were presented at this conference despite the fact that it was held rather hurriedly. Several schools, such as Nanking and Lanchow universities, were comparatively heavy contributors. The sort of intercollegiate academic activity represented by this conference facilitates the expression of opinions and encourages profundity of discussion.

The reports given at this conference that described work done under the direct guidance of experienced instructors were done relatively well, particularly as regards clarity and completeness. Some papers involved the use of new methods, others reported on self-designed apparatus or installations.

Discussions at the conference were very vigorous, despite the lack of time, and different opinions were expressed, particularly over teaching methods used in the past few years; ultimately, these differences of opinion were resolved by discussion. When there were evident shortcomings in the reports these were pointed out by the delegates, often quite sharply, but this actually increased the camaraderie existing among the delegates.

## MISCELLANEOUS

CHINESE REVIEW 1962 ACCOMPLISHMENTS IN NATURAL SCIENCES -- Peiping, Kuang-ming Jih-pao, 14 January 1963, p 1.

1962 was a fruitful year for China from the viewpoint of the natural sciences; the exchange of scientific and technological information was increased, and there was significant progress made in the solution of key economic problems. In all, 55 national conferences were held during 1962; many were the first conferences held in China on specialized subjects.

Advances were made in theoretical sciences. Top theory, as it relates to spaceship travel, along with five other special topics, were discussed by the 1962 conference of the China Mechanics Society, held in Peiping. The discussions of top theory at this conference began with a wide divergence of opinion between theoreticians and technicians; after the discussions, however, unanimity was achieved.

The conference of the China Zoology Society, meeting in Canton, gave evidence that Chinese zoo-ecology has reached a new height of development. All of those attending the annual conference of the Shanghai Biochemistry Society agreed that new ground had been broken in the field of biochemical research in 1962 by the use of the latest mathematical and physical techniques in the study of the laws and concepts of life activity.

Of the 71 papers received at the annual conference of the China Astronomy Society, 50 were submitted by young persons. One young assistant researcher at the Shanghai Observatory calculated the shift in longitudinal position of the world's observatories from numerical data collected during the 20-year history of the Shanghai Observatory, thus providing substantiation for the "floating continent" hypothesis now being studied by geologists on a world-wide basis. The China Geology Society's annual conference was the largest and the most fruitful in its 40-year history; over 730 papers, the largest number ever, were received.

Advances were made in the field of textile engineering; this was evinced by the value of the research reports submitted at China's first conference on chemical textiles, held in Shanghai during 1962. The China Silicates Society held a conference in Nanking; papers were offered on the physics and chemistry of glass. The conference jointly held by the China and the Shanghai Shipbuilding Societies discussed improvements in anchor design and construction of a reinforced-concrete barge.

C-O-N-F-I-D-E-N-T-I-A-L

Many results of great value to agriculture were achieved in the field of biology. Plant protection workers can point with pride to the increased knowledge about the spread of wheat rust, the causes of potato degeneration, and the pattern of manifestation of citrus "huang-lung" (7806/7898) disease. Entomologists have devised several new methods of combating insect pests; of these, the sterilization of the insects with ionizing radiation is the most significant. The China Society of Animal Husbandry and Veterinary Medicine proposed using synthetic urea as a substitute for protein grains in the feeding of sheep and cattle. Other advances were made in 1962 in the fields of heavy industry, medicine, public health, architecture, and engineering.

BIOGRAPHIC INFORMATION

[The following biographic information on selected Chinese Communist scientific and technical personnel was taken from sources cited in parentheses.]

CHANG Ch'ing-ch'un, Institute of the Chemistry of Silicates, Academy of Sciences USSR; coauthor with E. K. Keler of article, "Elastic properties of Certain Clays and Kaolins Depending on Heat Treatment," in Russian. (Moscow, Ogneupory, No 12, Dec 62, pp 557-567)

CH'AO Chi-p'ing (1560/4764/1627), Institute of Geophysics and Meteorology, Chinese Academy of Sciences; author of article, "On Some Fundamental Problems of Dynamics of Small-Scale Processes In the Atmosphere," in English; first published in Chinese in Acta Meteorologica Sinica, Volume 32, No 2, pages 104-118. (Peiping, Scientia Sinica, Vol 11, No 12, Dec 62, pp 1689-1706)

CH'EN Ching-jun (7115/2529/3387), Institute of Mathematics, Chinese Academy of Sciences; author of article, "Corrigendum to Yin Wen-lin's Paper, 'The Lattice-Points In a Circle,'" in English. (Peiping, Scientia Sinica, Vol 11, No 12, Dec 62, p 1725)

CHENG Huan-wen (6774/3526/2429), author of article, "A Study of Experimental Method of Rigidity on the Grinding Machine." (Peiping, Chi-hsieh Kung-cheng Hsueh-pao [Chinese Journal of Mechanical Engineering], Vol 10, No 3, 15 Sep 62, pp 76-86)

CH'IEN Chih-huan (6929/1367/2970), East China College of Hydraulic Engineering, author of article, "On the Problems of Settlement and Stability of Foundations." (Peiping, T'u-mu Kung-ch'eng Hsueh-pao [Chinese Journal of Civil Engineering]. Vol 8, No 1, 1962, pp 21-25)

CH'IEN Jen-yuan (6929/0086/0337)  
SHIH Liang-ho (2457/5328/0735)

Both affiliated with Institute of Chemistry, Chinese Academy of Sciences; coauthors of article, "Viscosity and Light Scattering Studies of Polymethylmethacrylate In Methyl Acetate-Ethanol," in English; first published in Chinese in Acta Chimica Sinica, Volume 28, No 1, 1962, pages 44-51. (Peiping, Scientia Sinica, Vol 11, No 12, Dec 62, pp 1649-1658)

CHIN Chang, coauthor with Z. U. Borisova and O. V. Il'inskaya of article, "The Dependence of the Dissolving Rate of Glassy As<sub>2</sub>Se<sub>3</sub> Upon the Alkaline Concentration in the Solution," in Russian. (Leningrad, Vestnik Leningradskogo Universiteta, No 22, Seriya Fiziki i Khimii, No 4, 29 Nov 62, pp 165-167)

CHOU Mo-lung, coauthor with N. G. Zaytseva of article, "Radiochemical Separation of Hafnium Without A Carrier," in Russian. (Moscow, Akademiya Nauk SSR, Radiokhimiya, Vol 4, No 6, Nov/Dec 62, pp 738-739)

HANG Ch'ih-yung, coauthor with V. A. Grigoryan and Ye. Mikhalik of article, "Determination of the Kinetic Characteristics in the Reaction of Iron With Molten Slag," in Russian. (Moscow, Izvestiya Akademii Nauk SSR, Otdeleniye Tekhnicheskikh Nauk, Metallurgiya i Teplovo, No 6, Nov/Dec 62, pp 27-31)

HO Kuang-ch'ien (0149/1684/0051)

CHANG Wei-yueh (1728/4850/1547)

WEI Lien (7614/8780)

All of the Research Academy of Architectural Engineering Ministry of Building; coauthors of article, "Calculation of the Thermal Stresses of Shallow Shells (I)." (Peiping, T'u-mu Kung-ch'eng Hsueh-pao, Vol 8, No 1, 1962, pp 1-13)

HSU Hai-kuang (1776/3189/0342), deputy director of the Agronomy Department, Hopeh Agricultural University; gives a course in plowing to members of the "Production Experts Class." (Peiping, Kuang-ming Jih-pao, 21 Dec 62, p 2)

HSU Le-t'ien, Institute of Cardiovascular Surgery, Academy of Medical Sciences USSR; coauthor with M. V. Murav'yev, F. N. Romashov, and Yu. V. Yevteyev of article, "Surgical Treatment of Patent Ductus Arteriosus Complicated by Pulmonary Hypertension," in Russian. (Moscow, Khirurgiya, No 1, Jan 63, pp 12-18).

HUANG Kuo-chang (7806/0948/3864), Prof., director, Department of Geography, Shensi Normal University. (Peiping, Kuang-ming Jih-pao, 14 Jan 63, p 2)

K'ANG Ch'ang-ho, coauthor with P. G. Yeliseyev and I. A. Nakhodnova of article, "Inborn Dislocations and Recombination In  $\beta$ -Ge," in Russian. (Moscow, Fizika Tverdogo Tela, Vol. 4, No 10, Oct 62, p 2880)

KO T'ing-sui (5514/1656/3606)  
HUANG Yuan-shih (7806/0337/1102)  
WANG Chung-kuang (3769/0022/0342)

All affiliated with Chinese Academy of Sciences; coauthors of article, "Effect of Aging, Intermittent Loading, and Solution Treatment Upon the Fatigue Behavior of Aluminum-Copper Alloys," in English; first published in Chinese in Acta Physica Sinica, Volume 18, No 8, 1962, pages 400-409. (Peiping, Scientia Sinica, Vol 11, No 12, Dec 62, pp 1635-1648)

KUO Chu-jui (6753/4554/3843) Chekiang University; author of article, "Approximation of a Continuous Function By Cesaro Means of Its Fourier Series," in English; first published in Chinese in Acta Mathematica Sinica, Volume 12, No 3, 1962, pages 320-329. (Peiping, Scientia Sinica, Vol 11, No 12, Dec 62, pp 1625-1634)

KUO K'o-ch'iang (6753/0344/1730), author of article, "Derived Curvature of Helical Spur Gears," (Peiping, Chi-hsieh Kung-ch'eng Hsueh-pao [Chinese Journal of Mechanical Engineering], Vol 10, No 3, 15 Sep 62, pp 1-15)

KUO Tsu-yuan (6665/4371/3293), author of article, "Productive Oxidation Pond." (Peiping, T'u-mu Kung-ch'eng Hsueh-pao, Vol 8, No 1, 1962, pp 57-71 and 56)

LAI T'ing-ch'uan, Moscow Institute of Steel and Alloys; coauthor with Dr Ya. Vishnyakov of article, "Characteristics of the Isothermic Conversion of Austenite In the Intermediate Region," in Russian. (Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya, No 11, 29 Oct 62, pp 163-169)

LIN Ch'u'an-kuang (2651/0278/0342)  
HUANG Ho (7806/3109)

Both affiliated with Institute of Microbiology, Chinese Academy of Sciences; coauthors of article, "Quantitative Studies On the Infection Chains of Potato Late Blight," in English. (Peiping, Scientia Sinica, Vol 11, No 12, Dec 62, pp 1669-1681)

LIU Hung-fa 0491/7703/4099), author of article, Mechanisms of the Trochoid Rotor Engine." (Peiping, Chi-hsieh Kung-ch'eng Hsueh-pao, Vol 10, No 3, 15 Sep 62, pp 32-46)

LIU Yu-t'ang, author of article, "Effect of Beryllium on Tissue Respiration," in Russian; first published in Gigiyena Truda i Professional'nyye Zabolevaniya, No 9, September 1962, pages 41-44. (Moscow, Letopis' Zhurnal'nykh Statey, No 51, 15 Dec, 62, p 132)

P-AN Ch'i-ts'ao, Institute of Experimental and Clinical Oncology, Moscow; author of article, "On the Antitumorous Activity of Tripentide Sarcoslysyl-phenylalanil-leucin," in Russian. (Moscow, Voprosy Onkologii, Vol 8, No 12, Dec 62, pp 57-59)

P'ENG Tsai-keng, coauthor with A. L. Pindrokh of article, "Precise Calculation of the Properties of Air At High Temperatures," in Russian. (Moscow, Voprosy Raketnoy Tekhniki, No 12, Dec 62, pp 3-24)

SHEN Chi-ch'un (3088/7221/2504), author of article, "Potentiation of the Adrenaline Effect By Vitamin C and Cysteine," in English. (Peiping, Scientia Sinica, Vol 11, No 12, Dec 62, pp 1683-1688)

SHIH Wei-hsiang (0670/4850/4382), author of article, "Studies on the Stability of Hydrodynamic Servo System." (Peiping, Chi-hsieh Kung-ch'eng Hsueh-pao, Vol 10, No 3, 15 Sep 62, pp 57-75)

T'AO I-chung (7118/6654/6945), author of article, "On the Cracks and Strengthening of Tee Beams of the Typical Designs, Series No G-109." (Peiping, T'u-mu Kung-ch'eng Hsueh-pao, Vol 8, No 1, 1962, p 26-32)

TS'AI Hsu-yu, coauthor with O. I. Shvetsova of article, "Virus Diseases of Agrotis segetum Schiff. and Hadena sordida Bkh. (Lepidoptera, Noctuidae) In Simultaneous Infection With Granulosis and Polyhedrosis," in Russian. (Moscow, Akademiya Nauk SSSR, Entomologicheskoye Obozreniye, Vol 41, No 4, 15 Dec 62, pp 781-787)

WANG Chien-feng, Moscow Institute of Chemical Technology imeni D. I. Mendeleyev; coauthor with A. I. Kamneva, D. A. Muzychko, A. I. Zhemzhur, and V. I. Zakharova of article, "Oxidation of Acenaphthene With Electrochemical Regeneration of the Catalyst," in Russian. (Moscow, Akademiya Nauk SSSR, Neftekhimiya, Vol 2, No 5, 18 Dec 62, pp 756-759)

WANG Chien-pai (3769/1017/4101), author of article, "Analysis of Statically Indeterminate Trusses by Slope-deflection Method." (Peiping, T'u-mu Kung-ch'eng Hsueh-pao, Vol 8, No 1, 1962, pp 14-20)

WANG Yuan (3769/0337) Institute of Mathematics, Chinese Academy of Sciences; author of article, "On Sieve Methods and Some of Their Applications," in English; first published in Chinese in Acta Mathematica Sinica, Volume 9, No 2, 1959, pp 87-100. (Peiping, Scientia Sinica, Vol 11, No 12, Dec 62, pp 1607-1624)

WEN Shih-chu (3306/6108/6999)

WU K'un (0702/2492)

YU Te-ch'ien (0060/1795/3480)

Coauthors of article, "Experiments and Analysis of the Characteristics of the Statically Pressurized Air Lubricated Bearing." (Peiping, Chi-hsieh Kung-ch'eng Hsueh-pao, Vol 10, No 3, 15 Sep 62, pp 16-31)

WU Ch'eng-ts'ai (0702/2052/2624)

YAO Kuo-hua (1202/0948/5478)

Both of the Research Academy of Architectural Engineering Ministry of Building; coauthors of article, "Low Temperature Properties and Brittle Fracture of Steel in Building Structure." (Peiping, T'u-mu Kung-ch'eng Hsueh-pao, Vol 8, No 1, 1962, pp 33-39)

YANG Chi-hou (2699/1015/0624), author of article, "Effects on the Roundness of Centerless Grinding." (Peiping, Chi-hsieh Kung-ch'eng Hsueh-pao, Vol 10, No 3, 15 Sep 62, pp 87-99)

YIN I-fang (1438/0308/2455), author of article, "The Formula for Intermittent Involute Gears." (Peiping, Chi-hsieh Kung-ch'eng Hsueh-pao, Vol 10, No 3, 15 Sep 62, pp 47-56)

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Central Intelligence Agency



Washington, D.C. 20501

7 September 2004

Ms. Roberta Schoen  
Deputy Director for Operations  
Defense Technical Information Center  
7725 John J. Kingman Road  
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Dear Ms. Schoen:

In February of this year, DTIC provided the CIA Declassification Center with a referral list of CIA documents held in the DTIC library. This referral was a follow on to the list of National Intelligence Surveys provided earlier in the year.

We have completed a declassification review of the "Non-NIS" referral list and include the results of that review as Enclosure 1. Of the 220 documents identified in our declassification database, only three are classified. These three are in the Release in Part category and may be released to the public once specified portions of the documents are removed. Sanitization instructions for these documents are included with Enclosure 1.

In addition to the documents addressed in Enclosure 1, 14 other documents were unable to be identified. DTIC then provided the CDC with hard copies of these documents in April 2004 for declassification review. The results of this review are provided as Enclosure 2.

We at CIA greatly appreciate your cooperation in this matter. Should you have any questions concerning this letter and for coordination of any further developments, please contact Donald Black of this office at (703) 613-1415.

Sincerely,

Sergio N. Alcivar  
Chief, CIA Declassification Center,  
Declassification Review and Referral  
Branch

Enclosures:

1. Declassification Review of CIA Documents at DTIC (with sanitization instructions for 3 documents)
2. Declassification Status of CIA Documents (hard copy) Referred by DTIC (with review processing sheets for each document)

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## Processing of OGA-Held CIA Documents

The following CIA documents located at DTIC were reviewed  
by CIA and declassification guidance has been provided.

OGA Doc ID	Job Num	Box	Fltr	Doc	Doc ID	Document Title	Pub Date	Pages	Decision	Proc Date
AD0335308	78-03117A	194	1	23	4363	Scientific Information Report Chemistry And Metallurgy (26)	3/7/1963	71	Approved For Release	3/25/2004
AD0335625	78-03117A	197	1	3	4460	Scientific Information Report Chemistry And Metallurgy (27)	4/4/1963	51	Approved For Release	3/25/2004
AD0336825	78-03117A	199	1	26	4562	Scientific Information Report Chemistry And Metallurgy (28)	5/9/1963	70	Approved For Release	3/25/2004
AD0332150	78-03117A	183	1	5	3916	Scientific Information Report Chinese Science (11)	10/4/1962	52	Approved For Release	3/29/2004
AD0332434	78-03117A	183	1	40	3951	Scientific Information Report Chinese Science (12)	10/19/1962	59	Approved For Release	3/29/2004
AD0332795	78-03117A	184	1	37	3988	Scientific Information Report Chinese Science (13)	11/5/1962	48	Approved For Release	3/29/2004
AD0333069	78-03117A	186	1	7	4028	Scientific Information Report Chinese Science (14)	11/16/1962	30	Approved For Release	3/29/2004
AD0333148	78-03117A	187	1	19	4078	Scientific Information Report Chinese Science (15)	11/29/1962	44	Approved For Release	3/29/2004
AD0333835	78-03117A	189	1	6	4144	Scientific Information Report Chinese Science (16)	12/21/1962	65	Approved For Release	3/29/2004
AD0334108	78-03117A	190	1	2	4179	Scientific Information Report Chinese Science (17)	1/10/1963	56	Approved For Release	3/29/2004
AD0334105	78-03117A	191	1	12	4230	Scientific Information Report Chinese Science (18)	1/18/1963	25	Approved For Release	3/29/2004
AD0334378	78-03117A	192	1	21	4277	Scientific Information Report Chinese Science (19)	2/1/1963	27	Approved For Release	3/29/2004
AD0334433	78-03117A	193	1	22	4322	Scientific Information Report Chinese Science (20)	2/15/1963	28	Approved For Release	3/29/2004
AD0335021	78-03117A	194	1	37	4377	Scientific Information Report Chinese Science (21)	3/8/1963	59	Approved For Release	3/29/2004
AD0335847	78-03117A	198	1	33	4526	Scientific Information Report Chinese Science (22)	4/18/1963	61	Approved For Release	3/29/2004
AD0336327	78-03117A	200	1	3	4578	Scientific Information Report Chinese Science (23)	5/2/1963	68	Approved For Release	3/29/2004
AD0337167	78-03117A	201	1	26	4643	Scientific Information Report Chinese Science (24)	5/23/1963	95	Approved For Release	3/29/2004
AD0337777	78-03117A	202	1	27	4687	Scientific Information Report Chinese Science (25)	6/6/1963	52	Approved For Release	3/29/2004
AD0338474	78-03117A	203	1	27	4727	Scientific Information Report Chinese Science (26)	6/20/1963	83	Approved For Release	3/29/2004
AD0338687	78-03117A	204	1	32	4772	Scientific Information Report Chinese Science (27)	7/5/1963	80	Approved For Release	3/29/2004
AD0339386	78-03117A	206	1	4	4820	Scientific Information Report Chinese Science (28)	7/17/1963	32	Approved For Release	3/29/2004
AD0339147	78-03117A	207	1	11	4862	Scientific Information Report Chinese Science (29)	7/30/1963	48	Approved For Release	3/29/2004
AD0340927	78-03117A	208	1	35	4924	Scientific Information Report Chinese Science (30)	8/21/1963	53	Approved For Release	3/29/2004
AD0341855	78-03117A	209	1	43	4974	Scientific Information Report Chinese Science (31)	9/5/1963	46	Approved For Release	3/29/2004
AD0342464	78-03117A	210	1	38	5013	Scientific Information Report Chinese Science (32)	9/16/1963	43	Approved For Release	3/29/2004
AD0342608	78-03117A	211	1	36	5054	Scientific Information Report Chinese Science (33)	9/27/1963	41	Approved For Release	3/29/2004